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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Kawamoto et al.	Examiner:	A. Piziali
Serial No.:	09/893,107	Group Art Unit:	1771
Filed:	6/27/01	Docket:	14434.37US01
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Title: WINDOW GLASS FOR VEHICLE AND METHOD OF MANUFACTURING THE SAME

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By: Linda Engel
Name: Linda Engel

Mail Stop Appeal Brief-Patents
Commissioner for Patents
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PATENT TRADEMARK OFFICE

Sir:

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S/N 09/893,107 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Kawamoto et al.	Examiner:	A. Piziali
Serial No.:	09/893,107	Group Art Unit:	1771
Filed:	June 27, 2001	Docket No.:	14434.37US01
Title:	WINDOW GLASS FOR VEHICLE AND METHOD OF MANUFACTURING THE SAME		

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By: Linda Engel
Name:

APPELLANTS' BRIEF ON APPEAL

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Brief is presented in support of the Appeal filed February 2, 2004, from the final rejection of Claims 1-6 and 31 of the above-identified application, as set forth in the Office Action mailed August 1, 2003.

A check for $330.00 to cover the required fee for filing this Brief is enclosed. An original and two copies of the Brief are enclosed herewith.

I. REAL PARTY OF INTEREST

This application is assigned to Nippon Sheet Glass Co., Ltd. of Osaka, Japan.

II. RELATED APPEALS AND INTERFERENCES

Appellants, the assignee and their representative are unaware of any appeals or interferences that would directly affect, be directly affected by, or have a bearing on the outcome of the present appeal.

III. STATUS OF CLAIMS

Claims 1-6 and 31 are pending and are the subject of this Appeal (Appendix 1, Claims). Claims 7-27 were canceled during prosecution. Claims 28-30 are withdrawn; however, Appellants requested that they be maintained and reinstated if amended to track allowable claims. The text of the claims on appeal is appended hereto.

IV. STATUS OF AMENDMENTS

No amendments were filed after the final Office Action mailed August 1, 2003.

V. SUMMARY OF THE INVENTION

The present invention is directed to a window glass for a vehicle. In particular, the invention is directed to a window glass comprising a glass sheet, a transparent conductive film, and a pair of bus bars for feeding power to the transparent conductive film. The bus bars include a longer bus bar and a shorter bus bar. The transparent conductive film and the bus bars are formed on the glass sheet. The surface resistance of the conductive film decreases from the longer bus bar toward the shorter bus bar and the heat generated by the conductive film is more uniform than the heat generated by a conductive film with a uniform surface resistance.

Referring more specifically to Fig. 3 of the present application and the accompanying discussion at page 12, an upper bus bar 41 and a lower bus bar 42 are arranged at an upper and lower edge of a glass sheet, respectively. The lower bus bar 42 is longer than the upper bus bar 41. A transparent conductive film 3 is formed on the glass sheet. As shown in Figure 3, the surface resistance of the film 3 varies so that it decreases from the longer bus bar toward the shorter bus bar. (Note that numbers indicated on Figure 3 relate to specific electric conductivity;

however, specific electric conductivity is inversely proportional to the surface resistance. *See, e.g.*, page 12, lines 3-4.) The heat generated by the conductive film is more uniform than the heat generated by a conductive film with a uniform surface resistance.

This arrangement solves the problems of the prior art caused by non-uniform heat distribution throughout a conductive film, including deterioration of the glass, and irregular fogging and defrosting. *See, e.g.*, pages 1-3.

VI. ISSUES PRESENTED FOR REVIEW

The issue raised in the final rejection of August 1, 2003 is the obviousness of claims 1-6 and 31 over U.S. Patent No. 4,786,784 (Nikodem). Nikodem states that "Resistance of the product can be changed by varying either the silver thickness or the coating parameters or both and is adjusted to compensate for resistance changes due to electric powering, and/or temperature/pressure affects in lamination." In particular, the issue is whether that statement, which concerns a variation of surface resistance *as a whole* in a conductive film, suggests that a *single* conductive film can have a varying surface resistance.

VII. GROUPING OF CLAIMS

For the purposes of this appeal only, claims 1-6 and 31 are considered to stand or fall together.

VIII. ARGUMENT

For the reasons discussed in detail below, Appellants submit that the disclosure of Nikodem fails to establish a prima facie case of obviousness of the present invention of claims 1-6 and 31.

A. The Reference Disclosure

Nikodem discloses a method for producing an electrically heated window assembly. The invention of Nikodem is related to a method for eliminating the "bleed-through" of silver through a ceramic enamel band utilized to hide a bus bar. *See, e.g.*, col. 2, lines 55-66. Nikodem does not teach or suggest that the surface resistance of a conductive film decreases from the longer bus bar toward the shorter bus bar and that the heat generated by the conductive film is more uniform than the heat generated by a conductive film with a uniform surface resistance.

Indeed, Nikodem simply states the traditional method of producing a conductive film with a single surface resistance. With respect to a conductive layer, Nikodem states that "Resistance of the product can be changed by varying either the silver thickness or the coating parameters or both and is adjusted to compensate for resistance changes due to electric powering, and/or temperature/pressure affects in lamination." That statement, however, does not teach or suggest that a surface resistance of a conductive film can vary *within* a conductive film. Rather, that statement refers only to the design flexibility in selecting a surface resistance of the conductive layer *as a whole*. Nikodem's reference to electric powering and lamination make it clear that the statement relates only to the fact that conductive layers can be made with different surface resistances. For example, different electric powering systems can be used in vehicles and it is necessary to select a surface resistance that is compatible with the powering system that has been selected for use. Similarly, the process of lamination can take place under various conditions and it is necessary to select a coating parameter that will result in the desired end product after lamination.

C. B. Claim 1 is Not Obvious

Claim 1 requires that the surface resistance of the conductive film decreases from the longer bus bar toward the shorter bus bar and the heat generated by the conductive film is more uniform than the heat generated by a conductive film with a uniform surface resistance.

Nikodem does not teach or suggest that a single conductive film can be formed with a surface resistance that varies within that film. Rather, Nikodem only notes that surface resistance

can be varied *as a whole*. It is only with impermissible hindsight that Nikodem can be read to suggest that a single conductive film can be formed with a surface resistance that varies within that film. Moreover, since Nikodem does not teach or suggest a varying surface resistance layer in a conductive film, Nikodem also cannot teach or suggest that the heat generated by the conductive film is more uniform than the heat generated by a conductive film with a uniform surface resistance.

CONCLUSION

The obviousness rejection over Nikodem is untenable and should be reversed.

Respectfully submitted,

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APPENDIX 1

THE CLAIMS ON APPEAL

1. A window glass for a vehicle, comprising:

a glass sheet; and

a transparent conductive film and a pair of bus bars for feeding power to the transparent conductive film, the bus bars including a longer bus bar and a shorter bus bar, the transparent conductive film and the bus bars being formed on the glass sheet;

wherein the surface resistance of the conductive film decreases from the longer bus bar toward the shorter bus bar and the heat generated by the conductive film is more uniform than the heat generated by a conductive film with a uniform surface resistance.

2. The window glass according to Claim 1, wherein the surface resistance is changed by changing the film thickness of the conductive film.

3. The window glass according to Claim 2, wherein the film thickness changes continuously.

4. The window glass according to Claim 1, wherein the window glass comprises at least two glass sheets and a thermoplastic resin film for bonding the glass sheets, and the conductive film and the bus bars are provided on a surface of one of the glass sheets.

5. The window glass according to Claim 1, wherein the conductive film includes a first metal oxide film, a first Ag film, a second metal oxide film, a second Ag film, and a third metal oxide film that are layered in that order.

6. The window glass according to Claim 1, wherein a ceramic mask is provided at a portion where the bus bars are formed.

31. The window glass according to Claim 1, wherein the heat generated by the conductive film is less than 1500 W/m^2.